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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,125	04/05/2000	Brett T. Hannigan	60154	7024

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EXAMINER
HESS, DANIEL A

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 07/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/543,125	HANNIGAN, BRETT T.	
	Examiner	Art Unit	
	Daniel A Hess	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *1,2,11 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,6,7,9-16 and 19-24* is/are rejected.

7)☒ Claim(s) *4,5,8,17 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by the applicant, in view of Wang (US 5,790,703).

In this Jepson style claim, the applicant admits all art in the claim prior to the words 'the improvement comprising.'

The prior art admitted by the applicant doesn't include using software to analyze 2D sensor data for a purpose in addition to sensing scanner motion.

Wang disclosed (column 3, lines 3-4) the use of digital watermarks in documents.

In view of Wang's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known additional purpose of scanning a watermark as taught by Wang into the prior art admitted by the applicant because watermark detection can extract valuable hidden data in a document.

2. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being obvious over the prior art admitted by the applicant as modified by Wang, and further in view of Cherry (US 6,142,376).

Re claim 6: The prior art admitted by the applicant as modified by Wang fails to show identifying portions that are more likely to include detectable id data.

Cherry shows (see figure 4) the dual process of locating a barcode on an item and further reading the barcode on that item. A discussion of this process is made in cols. 10 and 11. Cherry further notes (col 11, line 30) that only 8% of the area is scanned, indicating focus on portions of scan area most likely to be fruitful.

Given the teachings of Cherry it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known idea of first locating a marking and then actually reading the markingas taught by Cherry into the prior art admitted by the applicant as modified by Wang, in order not to waste time trying to read an area that has no meaningful encoded data.

Re claims 7 and 9: The prior art admitted by the applicant as modified by Wang fails to show a detection process involving capability to analyze an object surface aspect, apply a filter to account for this characteristic, assess distance to the object from different portions of the scanner, or determine and compensate for affine distortion.

Cherry (figures 9, 10, and 11) shows a variety of orientations and configurations of the scanned surface, including different relative distances in different scanned portions. Further, as 12C shows, the surface can have various characteristics, in that case curvature. This is achieved through software.

In view of the teaching of Cherry, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known versatility in scanning through software in the teachings of the applicant disclosed in discussion of prior art as modified by Tracy because it increases the likelihood of successful scanning.

3. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being obvious over the prior art admitted by the applicant, in view of Rhoads (US 6,345104).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Re claim 10: In this Jepson style claim, the applicant admits all art in the claim prior to the words 'an improvement comprising.'

The prior art admitted by the applicant doesn't include detecting a steganographically encoded digital watermark.

Rhoads shows (column 13, lines 47-55) watermarks that are steganographically encoded using keys.

In view of Rhoads's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the prior art scanner to scan watermarks that are

steganographically encoded using keys as taught by Rhoads because such watermark detection can extract valuable cryptographically hidden data in a document.

Re claim 16: In this Jepson style claim, the applicant admits all art in the claim prior to the words 'an improvement comprising.'

The prior art admitted by the applicant doesn't include a two step process to decode a plural-bit watermark.

Rhoads shows that (column 26, lines 20-23) calibration data holds information to decode a steganographically encoded watermark. Clearly, in order to decode the watermark, two techniques must be employed in succession. First, attribute information must be taken from the calibration portion, and then that attribute information facilitates decoding of the watermark. Rhoad's watermark is plural-bit because it employs color data.

In view of Rhoads' teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known calibration data holding information to decode a steganographically encoded watermark as taught by Rhoads into the prior art admitted by the applicant because this two-step process results in more secure encoding.

4. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being obvious over the prior art admitted by the applicant, in further view of Wang and Rhoads.

The applied reference (Rhoads) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was

derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Re claim 13: In this Jepson style claim, the applicant admits all art in the claim prior to the words 'an improvement comprising.'

The prior art admitted by the applicant as modified by Wang fails to show identifying portions that are more likely to include detectable id data.

Cherry shows (see figure 4) the dual process of locating a barcode on an item and further reading the barcode on that item. A discussion of this process is made in cols. 10 and 11. Cherry further notes (col 11, line 30) that only 8% of the area is scanned, indicating focus on portions of scan area most likely to be fruitful.

Given the teachings of Cherry it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known idea of first locating a marking and then actually reading the markingas taught by Cherry into the prior art admitted by

the applicant as modified by Wang, in order not to waste time trying to read an area that has no meaningful encoded data.

The prior art admitted by the applicant and Cherry both fail to include detecting a steganographically encoded digital watermark.

Rhoads shows (column 13, lines 47-55) watermarks that are steganographically encoded using keys.

In view of Rhoads's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the prior art scanner to scan watermarks that are steganographically encoded using keys as taught by Rhoads because such watermark detection can extract valuable cryptographically hidden data in a document.

Re claim 14: In Rhoads' process, (column 26, lines 20-23) calibration data holds information to decode a steganographically encoded watermark. Clearly this must involve locating a calibration signal.

In view of Rhoads' teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known calibration data holding information to decode a steganographically encoded watermark as taught by Rhoads into the prior art admitted by the applicant because this two-step process results in more secure encoding.

Re claim 15: Rhoads uses color images. Thus scanning must involve collection of color images.

5. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by the applicant, in further view of Cherry and Rhoads.

The applied reference (Rhoads) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Re claims 19 and 20: In the Jepson style claim 19, the applicant admits all art in the claim prior to the words 'an improvement wherein.'

The prior art admitted by the applicant fails to show identifying portions that are more likely to include detectable id data.

Cherry shows (see figure 4) the dual process of locating a barcode on an item and further reading the barcode on that item. A discussion of this process is made in cols. 10 and 11.

Cherry further notes (col 11, line 30) that only 8% of the area is scanned, indicating focus on portions of scan area most likely to be fruitful.

Given the teachings of Cherry it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known idea of first locating a marking and then actually reading the markingas taught by Cherry into the prior art admitted by the applicant as modified by Wang, in order not to waste time trying to read an area that has no meaningful encoded data.

The prior art admitted by the applicant as modified by Cherry doesn't include detecting a steganographically encoded digital watermark.

Rhoads shows (column 13, lines 47-55) watermarks that are steganographically encoded using keys.

In view of Rhoads's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the prior art scanner to scan watermarks that are steganographically encoded using keys as taught by Rhoads because such watermark detection can extract valuable cryptographically hidden data in a document.

Re claim 21: The applicant admits 1st and 2nd CCD arrays as prior art (column 2, line 14). They must be spaced apart to some extend.

The applicant fails to show a variety of views handled by the processor.

Cherry (figure 4d) shows a variety of orientations (views) that are scanned, with the aid of software.

In view of Cherry's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known scanning of a variety of

views as taught by Cherry into the prior art admitted by the applicant because this permits robust scanning even when an object is not oriented well.

Re claims 22 and 24: This element has already been discussed re claims 19 and 20 above.

Re claim 23: The prior art admitted by the applicant doesn't include a two step process to decode a plural-bit watermark.

Rhoads shows that (column 26, lines 20-23) calibration data holds information to decode a steganographically encoded watermark. Clearly, in order to decode the watermark, two techniques must be employed in succession. First, attribute information must be taken from the calibration portion, and then that attribute information facilitates decoding of the watermark. Rhoad's watermark is plural-bit because it employs color data.

In view of Rhoads' teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known calibration data holding information to decode a steganographically encoded watermark as taught by Rhoads into the prior art admitted by the applicant because this two-step process results in more secure encoding.

Allowable Subject Matter

6. Claims 4 and 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding specifically claim 4, the examiner did find (Wang, column 3, lines 3-4) that digital watermarks are used in documents. Such watermarks must be detected in the scanning

process. However, the examiner did not find within the prior art any motivation for beginning watermark detection before a linear sensor data is processed.

7. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Cherry shows a scanner where there the scanned surface can have unusual shapes. However, it is not indicated that there are different distances from different portions of the scan head to the object. Instead, there is a single scanning point and different distances to different areas of the scanning head.

8. Claims 17 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The examiner did not find within the art of record a two-step process of decoding a watermark wherein the first step involves analyzing either scanned color data or texture data to gain information needed for the second step of watermark decoding.

Response to Arguments

9. Applicant's arguments with respect to claims 3 has been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments regarding claims 7 and 9 have been fully considered but they are not persuasive. Cherry shows scanning of a code on a can, which certainly requires certain filtering and adjusting of scanning characteristics to compensate for affine (geometric shape) distortion.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel A Hess whose telephone number is (703) 305-3841. The examiner can normally be reached on 8:00 AM - 5:00 PM M-F.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G Lee can be reached on (703) 305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

13. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DH
July 2, 2002

Daniel A Hess
Examiner
Art Unit 2876

KARL D. FRECH
PRIMARY EXAMINER